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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/441,124	11/17/1999	HIDEAKI ONO	FUSA16.745	3879

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KATTEN MUCHIN ZAVIS ROSENMAN
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER

HOM, SHICK C

ART UNIT	PAPER NUMBER
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2666

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DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/441,124

Applicant(s)

ONO ET AL.

Examiner

Shick C Hom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-24 is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 7/21/03 have been fully considered but they are not persuasive.

In response to applicant's argument in page 12 line 21 to page 14 line 22 that Lyons et al. in view of Balwin et al. do not teach splitting a short-packet into short-packet portions so as to be accommodated respectively in first and second ATM cells and the restoration means which extracts the short packets from the ATM cells is not persuasive because Lyons et al. in col. 2 lines 40-67 which recite implementing an ATM Adaptation Layer (AAL) to map the services offered by the ATM network to the services required by the application including AALs which allow simple encapsulation of application `packets` if each packet fits into one ATM cell; and for larger application packets, a segmentation and reassembly (SAR) layer allows segmentation of a `packet` at the transmitter, so each segment fits into an ATM cell, and reassembly of the original packet from the received ATM cells at the receiver whereby these AALs thus allow collection of

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enough information to fit into one ATM cell payload or segmentation of larger native mode packets into smaller units such that each smaller unit fits into an ATM cell payload clearly anticipate splitting a packet into packet portions so as to be accommodated respectively in first and second ATM cells and the restoration means which extracts the packets from the ATM cells. Lyons et al. did not use the term "short packet;" however, "short" is merely a relative term and Figs. 10 and 11 of the specification show that a short packet may have a length between 5 bytes and 67 bytes.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the

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differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. This application currently names joint inventors. In

considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103[®] and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons et al. (6,282,196) in view of Baldwin et al. (5,953,339).

Lyons et al. disclose nearly all the subject matter now claimed. Note col. 6 lines 8-19 which recite the ATM processor filling payload of ATM cells with AAL-2 packets; forming an ATM cell whenever the payload is filled-up or a timer expires with at

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least one AAL-2 packet in the payload; ATM cell header processing; placing ATM cells into a transmit buffer, etc., providing ATM cells to ATM network, receiving ATM cells from ATM network, providing ATM cell header processing and error control; and transferring AAL2 packets to AAL2/SSCS processing unit, clearly anticipate the cell processing apparatus as in claims 1, 15, 18, 20. Further, col. 3 line 62 to col. 4 line 2 which recite the use of the length indicator for indicating the length of the packet being added to each packet so that the end of variable length packets can be demarcated whereby when the value of the LI field points beyond the end of the current ATM cell, the packet is split between cells; and Col. 2 lines 40-67 which recite ATM networks carry fixed size cells within the network irrespective of the applications being carried over ATM; however for larger application packets, a segmentation and reassembly (SAR) layer allows segmentation of a `packet` at the transmitter, so each segment fits into an ATM cell, and reassembly of the original packet from the received ATM cells at the receiver clearly anticipate means for splitting the packet having a length greater than L bytes capable of being accommodated in one ATM cell into the first and second ATM cells and cell creation means accommodating the packet length information in a payload area of

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the first ATM cell and remaining data not accommodated in the first ATM cell in the payload area of the second ATM cell as in claims 1, 15, 18, 20, 21; the restoration means for extracting short packet portions accommodated in the ATM cells upon referring to the length information as in claims 2, 15, 18, 20, 21; and the amount of significant data accommodated in the first ATM cell being a predetermined amount and accommodating the remaining in the second ATM cell as in claim 3. Col. 4 lines 3-12 which recite the HEC field providing error detection over the packet header whereby packets are discarded whose headers are corrupted clearly anticipate the restoration means detecting absence or presence of cell discard upon comparing calculated error code with received error correction code and detecting bit error in data as in claim 14. Col. 6 line 59 to col. 7 line 12 which recite using sequence numbering during play-out whereby packets are played out of the receive buffer in conjunction with the most recent sequence number at associated time intervals, wherein although packet 2 was lost and packet 3 was already received before the play-out time of packet 2, a fill packet is played-out in place of packet 2 at time interval 2 so that the packets are not "slipped backward" and packet 7, which is already in the buffer, but recognized to have arrived late is discarded

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and col. 7 lines 41-42 which discarding packets currently existing in the buffer (3, 0', 1' and 2'), and playing out packet 3' in its correct position, for restoring the order in the play-out process clearly anticipate restoration means detecting absence or presence of cell discard upon referring to the sequence-number information of the received ATM cell as in claim 4, upon referring to the code information of the received ATM cell as in claims 9, 19, and discarding the preserved significant data if cell discard is detected as in claims 5, 10.

Fig. 3 which shows the sequence number field and col. 4 lines 13-40 which recite the portion of the RES field providing application specific function whereby a different instance of being provided to each AAL-2 user including packet sequence number clearly anticipate the specific area being an area within the payload of the ATM cell as in claims 6, 11, an unused area within the ATM cell header as in claims 7, 12, and unused area within the packet header of each cell as in claims 8, 13. Fig. 1 which shows the packet header in cell 50 and col. 3 lines 46-50 which recite the packet header comprising a Length Indicator (LI) field clearly anticipate the length information as in claims 1, 15, 18, 20, 21 and the length information of the first ATM cell being a specific value, e.g. 0, and the length information

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ob the second ATM cell being that of the packet as in claims 16 and 17.

Lyons et al. did not recite the term "short packet" associated with ATM switching as in claims 1, 15, 18, 20, 21.

Baldwin et al. teach that it is known to use the ATM switch to transfer the extracted short packets to another ATM cell as set forth at col. 12 lines 26-35 in the field of digital and multiplex communications for the purpose of improving bandwidth efficiency by using fewer but more efficient ATM connections to carry logical link connections LLCs among multiple end points which clearly anticipate the short packet and the ATM switch as in claims 1, 15, 18, 20, 21. Further, col. 12 lines 26-38 recite the ATM switch extracts short packets as a function of a length indicator associated with the short packet.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the short packet and the ATM switch as taught by Baldwin et al. to the system of Lyons et al. because Baldwin et al. teach the desirable advantage of improving bandwidth efficiency by using fewer but more efficient ATM connections to carry logical link connections LLCs among multiple end points and said improved bandwidth

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efficiency being desirable to achieve more efficient system operation in Lyons et al.

Allowable Subject Matter

5. Claims 22-24 are allowed.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

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statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications; please
mark "EXPEDITED PROCEDURE")

Or:

(for informal or draft communications, please
label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal
Park II, 2121 Crystal Drive, Arlington. VA., Sixth
Floor (Receptionist).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742. The examiner's regular work schedule is Monday to Friday from 8:00 am to 5:30 pm EST and out of office on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao, can be reached at (703) 308-5463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Seema S. Rao
SEEMA S. RAO 10/6/03
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

SH

October 4, 2003